REMARKS

Claims 1-28 are pending in the application. Claims 1, 7, 17, and 22 are the independent claims. All claims stand rejected. In response, certain claims have been cancelled, others have been amended, and a new claim has been added to more distinctly claims the Applicants' invention. Rejections are also traversed. Reconsideration and further examination are requested.

Claim Rejections Under 35 U.S.C. § 112

Claims 1, 7, and 17 have been rejected under 35 U.S.C. § 112, second paragraph, and Claims 2, 3, and 26-28 have been rejected under 35 U.S.C. § 112, first paragraph.

In response, the limitation "the array of pixel electrodes" has been removed from Claims 1, 7, and 17, and Claim 26 has been cancelled.

As for Claims 2 and 3, both claims now depend directly from amended Claim 1, and therefore Claim 2 does not impose any limitations on Claim 3 and vice versa. As amended, Claim 2 requires an array of 320 x 240 pixel electrodes, and Claim 3 requires an array of 640 x 480 pixel electrodes.

The Office Action contends that the invention is limited to an array of at least 640 x 480, and therefore cannot have an array of at least 320 x 480. However, the specification supports both arrays as alternatives. As the Office Action acknowledges, the specification discloses, at page 4, lines 26-27, the array of pixel electrodes can be at least "320 x 240, 640 x 480, or higher." Since the conjunction "or" is used to indicate alternatives in a series, the arrays of "320 x 240" and "640 x 480" are clearly two alternative embodiments. Furthermore, the specification states at page 9, lines 5-12, that the display can have a 320 x 240 array in some embodiments, and a 640 x 480 array in other embodiments.

As for Claims 27 and 28, each depends directly from a different independent claim. As such, neither claim imposes any limitations on the other, contrary to what the Office Action asserts. Directing attention again to the specification at page 9, lines 5-12, there is disclosed

embodiments of displays with resolutions of at least 75,000 pixel electrodes, and other embodiments with resolutions of at least 300,000 pixel electrodes. Thus, the displays can have either an array of 75,000 pixel electrodes, or an array 300,000 pixel electrodes.

Reconsideration of the rejections under 35 U.S.C. § 112 is respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-25 are pending in the application. All claims have been rejected under 35 U.S.C. § 103(a) based on UK 2,289,555 to Wilska et al. in view of US 5,436,635 to Takahara et al.

The Applicants' docking system with an active matrix liquid crystal display includes a light source and a power management circuit, as now amended. A display circuit actuates the pixel electrodes to display an image, and the light source illuminates the image. After the image has been illuminated, the power management circuit lowers the power consumption of the display circuit until the next image is written to the matrix display. By lowering the power consumption of the display circuit between the writing of images, the power management circuit has the advantageous feature of lengthening the battery cycle time of the docking system. That is, the power management circuit extends the lifetime of the batteries used to power the docking system.

Wilska, alone or in combination with Takahara, does not teach or suggest a docking system having a display system with such features, in particular, a power management circuit that controls the power consumption of a display circuit such that after an image is illuminated on a liquid crystal display, the power management circuit lowers the power consumption of the display circuit until the next image is ready to be presented on the display.

Rather, Wilska discusses, as illustrated in its Figures 1-3, a device for personal communication, data collection, and processing. The device includes a housing (1) which

encloses a data processing unit (2) that connects to a cellular telephone (17) with a mobile phone controller (8). The device also includes a display (9) mounted to the housing (1) for displaying images to a user of the device.

As for Takahara, we agree that reference teaches a liquid crystal display (LCD) with a light source. Furthermore, Takahara discusses, as illustrated in its Figure 3, a drive circuit for the LCD (43). The drive circuit includes a control circuit (44) that directs the operation of a pair of source drives (11) and (12), and a pair of gate drives (13) and (14). In operation, a video signal is subject to a gain adjustment in an amplifier (41) so that the video output amplitude corresponds to the electro-optical characteristics of the liquid crystals of the display (43). Then the gain-adjusted video signal is input to a phase division circuit (42) to form a signal of positive polarity, V(P), and a signal of negative polarity, V(M), applied to the source drives (11) and (12), respectively. Meanwhile, the gate drives (13) and (14) supply gate signals to the display (43). Takahara, however, does not mention, nor suggests, the Applicants' power management circuit that controls the power consumption of the display circuit, as recited in amended Claims 1, 7, and 17, as well as new Claim 28, nor the use of such a circuit as required by amended Claim 22.

Therefore, without a power management circuit, Wilska's system, alone or in combination with Takahara's teachings, cannot include the claimed limitation of controlling the power consumption of the display circuit such that after the image is illuminated, the power management circuit lowers the power consumption of the display circuit until the next image is ready to be presented on the liquid crystal display, as required by amended Claims 1, 7, 17, and 22, as well as new Claim 28. Hence, the combination of Wilska with Takahara does not describe a docking station with the advantage of extending the battery lifetime used to power the station.

Thus, Wilska, alone or in combination with Takahara, does not make obvious the invention recited in amended Claims 1, 7, 17, and 22. The rejections of Claims 1, 7, 17, and 22 are therefore overcome.

Because the other rejected claims depend from Claims 1, 7, 17, or 22, the reasons for allowance of Claims 1, 7, 17, and 22 apply as well to the dependent claims.

Reconsideration of the rejections under 35 U.S.C. § 103 is respectfully requested.

Information Disclosure Statement

A Supplemental Information Disclosure Statement (IDS) is being filed concurrently herewith. Entry of the IDS is respectfully requested.

CONCLUSION

In view of the above amendments and remarks, it is believed that all pending claims (Claims 1-25, and 27-29) are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned attorney at (978) 341-0036.

Respectfully submitted,

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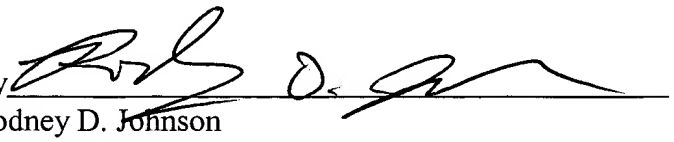
By 

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MARKED UP VERSION OF AMENDMENTS

Claim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

1. (Amended Four Times) A docking system for a wireless telephone comprising:

a display housing having a plurality of control elements and a connection port that electrically connects a display circuit within the display housing to a handheld wireless telephone housing docked with the display housing such that image data received by the wireless telephone is [received by] transmitted to the display circuit, the display housing having a docking surface on which the handheld wireless telephone housing is mounted;

an active matrix liquid crystal display mounted to the display housing and connected to the display circuit, the display circuit generating display data presented on the liquid crystal display as an image;

a light source positioned in the display housing [and that illuminates the array of pixel electrodes] to illuminate the image; [and]

a lens in the display housing [that is] positioned to receive [an] the image [formed] presented on the active matrix liquid crystal display such that the lens magnifies the image; and

a power management circuit that controls the power consumption of the display circuit such that after the image is illuminated, the power management circuit lowers the power consumption of the display circuit until the next image is ready to be presented on the liquid crystal display.

2. (Twice Amended) The system of Claim [26] 1 wherein the liquid crystal display includes an [the] array of at least 320 x 240 pixel electrodes [comprises an array of at least 320 x 240].

3. (Twice Amended) The system of Claim [26] 1 wherein the liquid crystal display includes an [the] array of at least 640 x 480 pixel electrodes [comprises an array of at least 320 x 480].

7. (Amended four times) A docking system for a handheld wireless telephone comprising:

a handheld housing having a plurality of control elements and a connection port that electrically connects a display circuit within the housing to the handheld wireless telephone docked with the housing, the handheld housing having a docking surface on which the handheld wireless telephone is mounted;

a display subhousing carried by the housing and moveable between a storage position and an operating position;

an active matrix liquid crystal display mounted to the display subhousing, the display being connected to the display circuit in the housing, [that receives] the display circuit receiving image data from the wireless telephone, generating display data from the image data, and presenting the display data on the liquid crystal display as an image;

a light emitting diode light source positioned in the display subhousing [and that illuminates the array of pixel electrodes carried by the display subhousing] to illuminate the image; [and]

a lens carried by the display subhousing and positioned to magnify [an] the image [formed] presented on the active matrix liquid crystal display; and

a power management circuit that controls the power consumption of the display circuit such that after the image is illuminated, the power management circuit lowers the power consumption of the display circuit until the next image is ready to be presented on the liquid crystal display.

17. (Amended four times) A docking system for a handheld wireless telephone comprising:

a housing having a plurality of control elements and a connector port that electrically connects a display circuit within the housing to a handheld wireless telephone docked with the housing, the housing having a docking surface on which the handheld wireless telephone is mounted;

a display subhousing module movable from a storage position to an operating position relative to the housing;

an active matrix liquid crystal display mounted to the display subhousing, the display being connected to the display circuit such that image data received by the wireless telephone is transmitted to the display circuit which generates display data from the image data and presents the display data on the liquid crystal display as an image [is displayed on the display];

a light emitting diode light source positioned in the display subhousing [and that illuminates the array of pixel electrodes of the display] to illuminate the image;

a lens in the display subhousing positioned to receive [an] the image [formed] presented on the active matrix liquid crystal display such and that the lens magnifies the image; [and]

a power management circuit that controls the power consumption of the display circuit such that after the image is illuminated, the power management circuit lowers the power consumption of the display circuit until the next image is ready to be presented on the liquid crystal display; and

a battery carried in the housing for powering the display circuit, the power management circuit, and the display.

22. (Thrice Amended) A method of displaying an image on a docking system in conjunction with a wireless telephone, comprising [the steps of]:

electrically connecting a wireless telephone with a docking surface of a docking station such that a display [control] circuit in the docking station receives image data from a transceiver of the wireless telephone capable of receiving audio and image data, the wireless telephone being attached to the docking station at a connection port of the docking station; and

operating the display [control] circuit connected to the transceiver and an active matrix liquid crystal display to generate display data from the image data and present the display data as an image on the liquid crystal display [an image on the display using the image data];

illuminating the image with a light source; and

operating a power management circuit that controls the power consumption of the display circuit such that after the image is illuminated, the power management circuit lowers the power consumption of the display circuit until the next image is ready to be presented on the liquid crystal display.

23. (Amended) The method of displaying an image on a docking station as in Claim 22 further comprising [the step of] powering the docking station and wireless telephone with a battery carried by the docking station.

24. (Amended) The method of displaying an image on a docking station as in Claim 22 further comprising [the step of] providing a camera to provide imaging capability.

25. (Amended) The method of displaying an image on a docking station as in Claim 24 further comprising [the step of] selecting whether the image the camera is seen on the display, transmitted to a remote location, or both.